WHAT IS CLAIMED IS:

1. A color characteristic description apparatus for producing color characteristic data for use when supplied image data is converted into output image data, comprising:

a lookup table of color characteristic data, wherein said lookup table is composed of only characteristic points which indicate the relationship between supplied image signals and output image signals which are determined to be impossible to be developed in a table development process which is performed when said lookup table is developed into a multidimensional lookup table.

2. A color characteristic description apparatus according to claim 1, wherein said lookup table composed of the characteristic points is described such that fundamental colors composed of primary colors of a color device having the same signal values serve as the characteristic points.

3. A color characteristic description apparatus according to claim 1, wherein color characteristic data which is produced by said color characteristic description apparatus contains, in addition to said lookup table, an identifier for identifying a table development method which is employed when said lookup table is developed into the multidimensional lookup table.

4. A color characteristic description apparatus according to claim 1, wherein color characteristic data which is produced by said color characteristic description apparatus

62

contains, in addition to said lookup table, software for performing a table development process.

5. A color characteristic description apparatus according to claim 4, wherein color characteristic data which is produced by said color characteristic description apparatus further contains an identifier for identifying a table development method and software for converting data developed into the table into an ICC profile.

6. A color characteristic description apparatus for producing color characteristic data for use when supplied image data is converted into output image data, comprising:

a multidimensional lookup table which is produced by said color characteristic description apparatus;

wherein color characteristic data which is produced by said color characteristic description apparatus incorporates data obtained by compressing said multidimensional lookup table and an identifier for identifying a restoring method for restoring the compressed multidimensional lookup table.

7. A color characteristic description apparatus for producing color characteristic data for use when supplied image data is converted into output image data, comprising:

a multidimensional lookup table which is produced by said color characteristic description apparatus,

wherein color characteristic data which is produced by said color characteristic description apparatus incorporates

data obtained by compressing said multidimensional lookup table and software for restoring compressed data.

8.   A color characteristic description apparatus according to claim 7, wherein color characteristic data which is produced by said color characteristic description apparatus further incorporates an identifier for identifying a restoring method for restoring compressed data and software for converting the restored multidimensional lookup table into an ICC profile.

9.   A color management apparatus for converting supplied image data by using a lookup table of color characteristic data into output image data, said color management apparatus comprising:

a lookup table which is composed of characteristic points which are points indicating the relationship between supplied image data and output image data which are determined to be impossible to be interpolated when a process for converting image data is performed; and

image data converting means for converting supplied image data by using said lookup table composed of the characteristic points into output image data.

10.   A color management apparatus according to claim 9, further comprising table development means for developing said lookup table into the multidimensional lookup table;

wherein said image data converting means uses the multidimensional lookup table developed by said table

64

development means to convert supplied image data into output image data.

11.   A color management apparatus according to claim 10, wherein said table development means develops said lookup table into said multidimensional lookup table in such a manner that all of characteristic points of said lookup table composed of the characteristic points are contained.

12.   A color management apparatus according to claim 10, wherein said table development means develops said lookup table into the multidimensional lookup table such that data corresponding to grid points of said multidimensional lookup table is composed of output data of said lookup table and data of information of adjacent grid points for interpolating a portion between grid points.

13.   A color management apparatus according to claim 10, wherein said multidimensional lookup table is a compressed multidimensional lookup table formed by compressing said multidimensional lookup table;

restoring means is provided which restores said compressed multidimensional lookup table into said multidimensional lookup table;

said image data converting means causes said restoring means to restore said compressed multidimensional lookup table and uses obtained multidimensional lookup table to convert supplied image data into output image data.

14.   color management apparatus according to an claim 9, further comprising:

table recording means for recording said multidimensional lookup table developed by said table development means in a memory; and

updating means for operating said table development means and said table recording means when said lookup table composed of the characteristic points has been updated to update said multidimensional lookup table and rewrite the updated multidimensional lookup table on said memory, wherein

said image data converting means uses said multidimensional lookup table recorded in said memory to convert supplied image data into output image data.

15.   An image converting apparatus comprising:

a color management apparatus incorporating image data converging means which uses a lookup table of color characteristic data produced by a characteristic description apparatus to convert supplied image data into output image data and which has a structure that said lookup table is composed of characteristic points which are points indicating the relationship between supplied image data and output image data which are determined to be impossible to be interpolated when said image data converting means performs an image data converting process; and

a storage portion for storing a plurality of color characteristic data items having different color characteristics;

wherein color characteristic data is selected in accordance with the characteristic of image data and selected color characteristic data is used by said color management apparatus to convert supplied image data into output image data.

16. A color correction method structured such that a multidimensional lookup table is used to convert a supplied image signal into an output image signal, said color correction method comprising the steps of:

producing a lookup table composed of characteristic points which are points indicating the relationship between input color image signals and output color image signals which are determined to be impossible to be developed in a table development process;

performing table development process such that said lookup table composed of the characteristic points is developed into a multidimensional lookup table; and

converting supplied image signal into an output image signal by using said multidimensional lookup table obtained by developing said lookup table composed of the characteristic points.